



BOROUGH OF MARGATE.

ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE YEAR

1909.

Margate :

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BOROUGH OF MARGATE.

ALDERMAN WILLIAM HENRY WHITE, MAYOR.

Sanitary and Sewerage Committee :

ALDERMAN HUGHES, CHAIRMAN.

„ COLEMAN.

„ EVANS.

„ HERMITAGE.

COUNCILLOR BRYANT.

„ HANNA.

„ SHEA.

„ WALES.

„ WATSON.

Medical Officer of Health :

BERTRAM THORNTON.

Sanitary Inspector :

EDWARD ELLIOT.

Assistant Sanitary Inspector :

J. M. BROWN.

Health Visitor :

MISS MAY.

Meteorologist :

JOHN STOKES.

Town Clerk :

EDWARD BROOKE.

*SUMMARY OF STATISTICS
AND INFORMATION RELATING TO THE
BOROUGH OF MARGATE.*

Area of Borough.

1875 Acres (including 386 Acres of Foreshore).

Geological Formation. Subsoil, Chalk.

Population.

Census of March, 1901—23,118.

Estimated to middle of 1909—28,800.

Estimated maximum population during season—100,000.

Rainfall.

During 1909 $28\frac{1}{2}$ inches—Number of days on which rain fell—165.

Average for last 10 years— $23\frac{1}{4}$ inches.

Water Supply.

Constant service from the chalk from the district of Wingham, 14 miles from Margate.

Sewage Disposal.

By water carriage, outfall into the deep sea two miles east of Margate Jetty.

Number of Inhabited Houses. (1909) 5,175.

Rateable Value. £183,994.

Rates. Borough and District, 4/11. Poor Rate, 1/10.

Birth Rate. 13.2 per 1000 in 1909.

Infantile Mortality (1909) 65 per 1000 births; average for last 10 years, 140 per 1000.

Death Rate. (Corrected). 11.0 per 1000.

Death Rate (excluding Visitors) 9.1.

Zymotic Death Rate (1909) 0.3 per 1000.

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*To His Worship the Mayor, Aldermen and Councillors
of the Borough of Margate.*

GENTLEMEN,

I have the honour of submitting to you my Sixth Annual Report. I am glad to say that the health of the Borough has again been exceptionally good, the Death Rate being the lowest for more than 33 years, and the Infantile Mortality being less than half the average of the last ten years, this is to a great extent due to the extra attention given of late years to the instruction of mothers in the management of their children. The most important event of the year has been the Medical Inspection of Schools and the far reaching subsidiary work associated with this Inspection. The School Nurse and Health Visitor have undoubtedly proved to be most important additions to the Sanitary Staff of the Borough. The provision of a modern Dust-Destructor is still the most pressing matter requiring the attention of the Corporation. In my Report I have called attention to the desirability of providing Public Baths, I trust that this suggestion in due course may be worthy of your consideration. The Veterinary Inspection of the cows in the district in the interests of a purer milk supply is also a subject that is important in a Health Resort.

Much of the information recorded in my Annual Reports has to be repeated every year, as it is required by the Local Government Board, the Kent County Council and other public bodies. The work of the Sanitary Department necessarily increases every year, and the Annual Report of the Sanitary Department helps to inform the members of the Town Council, the Burgesses, and the Visitors, of the amount of attention that is given by the Sanitary Committee and their Officers to the important duties entrusted to their charge.

I am Gentlemen,

Your obedient servant,

BERTRAM THORNTON,

February 14th, 1910.

Medical Officer of Health



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PART 1.

General Information on the Sanitary Features of the Borough.*

The Borough of Margate extends over an area of 1,922 acres, which includes 386 acres of foreshore.

Physical Characteristics. The town follows the coast line, which faces the North and North-West. Situated at the N.E. corner of Kent, it is exposed to sea-breezes from all quarters except the West. The subsoil is chalk, and the town is divided by a valley running East and West. Owing to this valley and the general undulations of the ground levels, the town is exceptionally favoured as regards surface drainage; it is a notable fact that even after the heaviest rainfall the roads become dry in a very short period of time. The amount of vegetation in the town and neighbourhood is very limited. The streets, except in the lower and older part of the town, are well laid out, and there are numerous large open spaces; the sea breezes are thus able to circulate freely in all parts of the town. To the above factors may be attributed the noted dryness of the climate of Margate. It is not improbable that the large area of foreshore (386 acres), with its sand and seaweed-covered rocks, may also materially add to the salubrity of the air when the wind sets in from the sea.

The House Property in Margate is, on the whole, of good construction, a large proportion of the houses in all parts of the Borough being used as lodging houses in the summer months. Rents of all classes of houses are comparatively high, and this fact, combined with the rating which roughly amounts to one-third of the rental, makes it difficult for the working classes to secure small cottages at a rent which will enable them to live without the tendency to overcrowd by letting apartments in the summer.

*NOTE :—Much of the information contained in Part I. it is necessary to repeat in each Annual Report.

Water Supply. The New Supply of Water from Wingham, which was opened in August, 1903, has proved to be a great boon to the district, and maintains its high reputation both as to quantity and quality. The old supply from local sources had, by overpumping, become so impregnated with salt (as much as 170 grains to the gallon) that it was a source of universal complaint from visitors. The new source is situated in the district of Wingham, 14 miles from Margate in a south-westerly direction. The catchment area extends over about 15 miles of open agricultural country, and the water is filtered through the chalk for from 80 to 120 feet till it reaches the adits. This situation was selected by the Engineer, Mr. Albert Latham, on account of its isolated position and consequent freedom from any possible source of pollution. The site was approved of by such eminent authorities as Mr. Charles Hawksley, C.E., Mr. Edward Eaton, C.E., and Mr. William Whitaker. The cost of the undertaking was £120,000 including the supply of several villages in the neighbourhood of the works.

The length of the mains laid in connection with this scheme exceeds 51 miles; the water is pumped direct into the mains. A reservoir capable of holding 1,000,000 gallons has been erected at Flete, $2\frac{1}{2}$ miles from Margate, at a height of 177 feet above ordnance datum; this reservoir, in addition to containing a reserve supply in case of a temporary breakdown, also forms a balancing head, and from it we draw the water when not pumping, the height of the reservoir enabling the water to flow by gravitation to the highest points in the town. The original rest level of the water was about 34 feet above ordnance datum before pumping operations commenced.

The total length of the adit originally proposed and shown on the Parliamentary plan was 9,300 feet, of which it has at present only been necessary to drive 3,650 feet, the supply obtained from this length of adit being found to be more than equal to any likely demand in the early future. The amount of water pumped from the adits when driving was stopped was $2\frac{3}{4}$ million gallons per diem.

It is interesting to compare the following tables, which show the amount of water pumped, and the levels on certain days in the years 1904 to 1909.

	Date.	Total Consumption in gallons.	Level of Water in Well in Feet.		Daily fall recovered during night in feet.
			Start. Above O.D.	Stop. Above O.D.	
1905.	January 1st ...	781,959	27.50	23.50	4.0
	April 1st ...	932,300	27.50	23.25	4.25
	July 1st ...	1,050,100	26.50	22.75	3.75
	October 1st ...	787,000	24.25	21.50	2.75
	*August 14th ...	1,444,300	24.0	20.0	4.0
1906.	January 1st ...	898,800	26.9	23.3	3.6
	April 1st ...	815,400	29.6	25.9	3.9
	July 1st ...	1,251,600	26.6	22.0	4.0
	October 1st ...	1,053,990	24.05	19.75	4.30
	*September 3rd ...	1,455,680	22.25	18.0	4.25
1907.	January 1st ...	1,053,840	26.25	23.00	3.25
	April 1st ...	1,073,130	27.00	23.25	3.75
	July 1st ...	1,083,810	25.00	21.00	4.00
	October 1st ...	1,165,010	22.25	18.75	3.50
	*August 9th ...	1,473,963	21.75	19.00	2.75
1908.	January 1st ...	889,930	27.00	23.00	4.00
	April 1st ...	994,900	28.00	24.00	4.00
	July 1st ...	1,297,210	24.50	20.50	4.00
	October 1st ...	1,207,270	22.00	19.25	2.75
	*August 19th ...	1,682,570	20.25	17.25	3.00
1909.	January 1st ...	1,345,740	24.0	20.0	4.00
	April 1st ...	1,090,820	25.9	22.0	3.9
	July 1st ...	1,304,960	23.9	19.9	4.00
	October 1st ...	1,191,620	23.0	19.0	4.00
	*August 13th ...	1,803,240	16.6	16.3	0.3

* Greatest daily consumption for the year.

The above figures suggest that the general water line is rising. On January 10th, 1910, it was as high as 33ft. 9ins., only about 3 inches below the original rest level. This is doubtless due to the excessive rainfall of the last year or two.

In addition to the above described water supply from Wingham, it is to be remembered that the Corporation still retains the Dane Waterworks as a reserve in case of any serious breakdown, it is capable of yielding at least 500,000 gallons a day for a considerable time

without becoming unduly charged with salt. Every week the engines pump the water into the drains for five hours, thus serving the double function of preventing the water becoming stagnant, and flushing out the drains. This reserve supply would be available at the shortest notice, and it is a fortunate thing that the Town maintains this water station, in view of a possible though unlikely accident to the 14 miles of main which brings our water from Wingham.

I am indebted to Mr. E. A. Borg, C.E., Borough Engineer, for much of the above information.

A Bacteriological examination of the water taken from the main at Shottendane at the entrance to the Borough is made every fortnight in the summer, and bi-monthly in the winter. The Wingham supply has now been in use for five years and five months, and these examinations have invariably shown that the water is from a bacteriological point of view remarkably pure. The following table by Macé I again quote, as it will be seen that the following Analysis compares very favourably with it.

BACTERIA PER C.C.			
Very pure water	...	0 to	50
Good water	... ..	50 „	500
Passable (mediocre) water		500 „	3,000
Bad water	... ..	3,000 „	10,000
Very bad water	...	10,000 „	100,000 and over.

The Character of the micro-organisms present in the samples taken was reported to be satisfactory as regards the absence of rapidly liquefying organisms, and on no occasion were there present any bacteria resembling B. Coli. or other sewage organisms. There is no tendency for the water to have any plumbo-solvent action.

The two following Analyses of the water taken during September, 1909, show that it maintains its high standard of purity:—

**Bacteriological Analysis of the Margate Water Supply taken at Shottendane
on December 1st, 1909.**

PHYSICAL :—

Quantity	...	Winchester quart.
Appearance in two-foot Tube...		Clear and bright.
Colour	...	Nil.
Suspended matter	...	No coarse suspended matter
Deposit	...	No definite suspended matter or sediment on standing for 24 hours.
Re-action	...	Neutral.
Temperature	...	15° Centigrade.

BACTERIOLOGICAL :—

I. Quantitative Exam. of Micro-Organisms :—

One cubic centimetre of the water contained, on an average, 2 *Bacteria* which were capable of growth on gelatine within 48 hours incubation at a temperature of 22°C. No growth of any kind was obtained from two cubic centimetres of the water added to Agar plates, and incubated for 24 hours at a temperature of 37°C.

II. Qualitative Exam. of Micro-Organisms :—

No growth of any kind was obtained from 10 cubic centimetres of the water added to various fluid media, and incubated for 48 hours at a temperature of blood heat.

REMARKS :—

The results of this Examination are in the highest degree satisfactory, and indicate a condition of the water supply which is nearly one of absolute Bacteriological purity. Not only is there an absence of any *Bacteria* whose presence might suggest recent surface pollution, but the absolute number of *Bacteria* present is a negligible one. Two cubic centimetres of the water incubated on gelatine plates at a temperature of 22°C. for 48 hours yielded, in all, the growth of only 4 *Bacteria*, a condition of things which justifies the expression of opinion that *for hygienic purposes, this sample of water is as pure as a distilled water.*

(Signed), ALEX. G. R. FOULERTON,
F.R.C.S. Eng., D.P.H., Cambridge.

Bacteriological Department,
Middlesex Hospital,
London.
December 7th, 1909.

**Chemical Analysis of Water taken on December 1st, 1909, from the Main
at Shottendane.**

N.B.—All numerical results expressed in grains per gallon.

Appearance	...	...	...	Clear.
Colour	...	...	...	Green blue.
Smell	...	...	...	None.
Chlorine in Chlorides	...	...	...	1·61.
Phosphoric Acid in Phosphates	...	...	...	None.
Nitrogen in Nitrates	...	...	...	0·44.
Ammonia	...	..	...	None.
Albuminoid Ammonia	...	...	...	0·0008.
Oxygen absorbed in 15 minutes	...	...	...	Traces.
„ „ 4 hours	...	...	...	0·014.
Hardness before boiling (Total)	...	...	...	19·0.
„ after „ (Permanent)	...	...	...	2·8.
Total solid matter	...	...	...	25·21.
Microscopical examination of Deposit	...	...	...	Slight and unimportant.
Chlorine as Salt	...	...	...	2·65.

REMARKS :—

The above results indicate water organically pure, and free from sewage percolation, while the microscopical examination calls for no adverse remarks. This supply fully maintains its satisfactory character.

(Signed), SIDNEY HARVEY,

December 4th, 1909.

Public Analyst to the Borough of Margate.

Drainage and Water-closets. The present drainage system was designed by Mr. Baldwin Latham, and carried out in 1889 at a cost of £80,000. The bulk of the sewage flows by gravitation, but a small proportion from the low-lying districts is lifted by hydraulic pumps, and the whole of it is conveyed to a Penstock chamber at the edge of the cliff; from this it is carried in an outfall pipe 600 yards across the foreshore, and discharges into deep water at a point more than two miles to the east of the Jetty. The sea currents at this point have such a direction, that whether the tide is ebbing or flowing, the sewage is carried away from the shore and disappears in the open sea. The dead end of the sewers are supplied with automatic flushing tanks. A large number of vent shafts have been erected, and every house is provided with an interceptor to cut it off from the main sewer. Twice a year the whole of the main sewer from the High Street to the outfall is examined and swept out by the Borough workmen. Owing to the fact that the Margate Sewerage System has recently been extended to Westgate-on-Sea and Garlinge, and the steady increase in the growth of the Town, it has become necessary to contemplate the early enlargement of some of the main sewers. Some of this work has already been carried out, but more remains to be done, and this matter is receiving the serious attention of the Sanitary and Sewerage Committee. There are no Privies in the Borough. The system of water carriage has existed in the town for many years. The majority of closets are pans on the wash-down principle; there are also a few valve closets. Every effort is made to insist on the use of modern pan closets in all classes of property, and to see that they are efficiently ventilated.

Refuse Disposal. House Refuse is collected daily over a large part of the Town in the early morning, in the remaining parts on alternate days. It is always a difficult matter for the Sanitary Authority to deal with refuse so as to get it away from the houses in the early hours of the morning, but on the

whole Margate compares favourably with other towns in this respect, considering the distribution of the houses, and the distance from the Dust Depôt. I am informed that as much as 51 tons have been collected and removed in one day during the month of August.

The Town Refuse is conveyed in covered carts to the Refuse Depôt about a mile from the Town, where it is burnt. As I have stated in previous reports the smoke from this Refuse Depôt is a real nuisance, and the rats that breed in the rubbish in large numbers might also possibly prove a source of danger to the public health.

It has, unfortunately, not yet been found possible to start building operations on a modern Refuse Destructor. The Town Council has devoted much time and consideration during the year to the various sites and plans that have been suggested. I would again express the hope that during the year 1910 a modern Destructor may be in course of erection, and the chief blot on the sanitary administration of the Town be permanently removed.

The greater proportion of patients suffering from Infectious Diseases are sent to the Isle of Thanet Joint Isolation Hospital at Haine, two miles from Margate.

This Hospital was opened in 1902, and is designed on the most modern principles. It is capable of taking 116 patients, and is provided with single-bedded wards for private patients. There is a special Hospital available for Small-pox on a separate site capable of holding 16 patients. Most of the important schools and institutions have provided their own sanatoria. The disinfecting of infected houses, bedding, etc., of ratepayers is carried out at the public expense. A Washington Lyon's Steam Disinfecting Apparatus has been erected in the Town Yard.

During the year the Committee have provided the very necessary accommodation for observation and mixed cases. There are now two beds in the building that are set apart for doubtful cases which require to be watched till an exact diagnosis has been established, and there are eight beds provided in a separate block for the treatment of cases of mixed infection.

PART II.

Vital Statistics, Sanitary Work, etc., in 1909.

The population of Margate at the last census in 1901 **Population.** was 23,118, the estimated population to the middle of 1909 was 28,800. The census is taken in March, and it is on that basis of the number of persons in the town at that period of the census year that it is necessary for the vitality statistics to be calculated. For a large proportion of the year, owing to the influx of invalids and visitors, the population is manifestly from 10 to 20 per cent. higher than is officially estimated, and for a few weeks during the season it is probable that the population would even exceed 100,000. Owing to the above considerations, and to the fact that another feature of our population is the exceptional number of children between the ages of 5 and 15 in the various schools (estimated as at least 2,500) and convalescent homes, and also the large proportion of unmarried women who are lodging-house keepers, or act as domestic servants and shop assistants, it is clear that our mortality statistics and birth-rate cannot be fairly compared with statistics of towns of a more evenly balanced population, and it speaks well for the health of the town that the figures come out so favourably.

The total number of births registered in the Borough **Birth-Rate.** in 1909 is as follows: Boys, 206; Girls, 175; total, 381; of these 14 were illegitimate. The Birth-rate for the year is 13.2 per 1000. This is the lowest Birth-rate recorded in Margate; the Birth-rate has steadily declined since 1898, when it was 23.7 per 1000. This steady fall in the Birth-rate is fairly general throughout the country, and is an unwelcome evidence of the physical deterioration of the British race in the United Kingdom. It is all the more important that every possible means should be taken by the parents and the community to see that this reduced child

population should be carefully tended, so that a reduced birth-rate may to some extent be balanced by a lessened child mortality, and that in every community, if children should be few in number they should at least be vigorous and likely to develop into useful and healthy members of society, able to earn their own livings, and not be a source of expense to the rates or charitable funds. Although our population differs materially in character from other towns in view of the disproportionate number of children sent here for health or education, the invalids in public institutions, and the large number of unmarried women who let lodgings or who are employed as domestic servants, it suggests a somewhat unprosperous condition of the bulk of our population when our Birth-rate is only 13.2 per 1000, when it is seen that according to the Registrar-General's returns for 1909 the Birth-rate in 143 smaller towns was 24.8 per 1000.

The total number of Deaths registered in the
Death-Rate. Borough from all causes in 1909 was **319**, which on the estimated population of 28,800 gives an uncorrected Death-rate of 11.4 per 1000. These deaths are made up as follows:—

Residents	...	...	...	...	...	207
Residents in Public Institutions	...	...	...	...	...	8
Visitors	...	...	...	...	...	53
Non-Residents in Public Institutions	...	...	...	...	...	51
						<hr/>
						319

The gross total as above, corrected, is as follows:—

- (1) By the subtraction of 51 non-residents brought into the district on account of sickness or infirmity, who died in Public Institutions in Margate.
- (2) By the addition of 49 deaths of Margate persons who died outside the district, viz., 4 at the Haine Isolation Hospital, 32 at Minster Workhouse, and 13 at the Chartham Asylum.

This gives a corrected total of 317, or a corrected Death-rate of 11.0 per 1000.

By excluding the Visitors who died in the district (not in public institutions) the number of deaths is again reduced to **264**, or a further corrected Death-rate of 9.1 per 1000. *The lowest Death-rate in*

Margate for more than 33 years. Although the majority of visitors who die in Margate are brought here as invalids, as their deaths do not occur in public institutions, the Local Government Board requires them to be ranked as residents for statistical purposes.

The extraordinary reputation Margate possesses as a Health Resort induces many invalids to come to the town, the vast majority return home cured or much improved in health, but a certain proportion are unwisely sent here too late to receive any benefit, and these unfortunately help to swell our Death-rate. If “bona-fide” inhabitants were alone reckoned, our Death-rate would be much lower than above stated. This will be seen, when it is noted that out of 319 persons dying in the Borough no less than 104 were strangers to the town.

The following Table shows that Margate compares favourably with other localities as regards its Death-rate:—

ENGLAND AND WALES.
Annual Birth-rates, Death-rates and Death-rates from the Principal Epidemic Diseases.

1909.	Annual Rates per 1,000 Living.				Deaths under One Year to 1,000 Births.
	Births.	Deaths.		Principal Epidemic Diseases.	
		Crude.	Cor- rected.		
England and Wales ...	25·6	14·5	14·5	1·12	109
76 great towns	25·7	14·7	15·6	1·42	118
143 smaller towns	24·8	13·9	14·5	1·08	111
England and Wales less the 219 towns	25·6	14·5	13·6	0·80	98
Margate	13·2	11·0	9·1	0·31	65

There has been a remarkable decrease in the Infant Mortality during 1909. In the previous year 53 infants under one year died in the Borough (a rate of 124 per 1000), and on one occasion during the last 10 years as many as 96 infants died; last year, however, the number fell to 25. As there were 381 births registered in the district during the year, the Infantile Mortality is equivalent to the rate of 65 per 1000 births; this is by far the lowest Infantile Mortality rate ever recorded in Margate, the average rate for the last ten years being 140

per 1000. It will be seen from the Table preceding this section that the Infantile Mortality rate during 1909 in 143 smaller towns of England and Wales was 111, whereas in 1908 it was 124; it is interesting to note that with the same climatic factors, the Infantile Mortality rate has fallen so much more in Margate, viz., in the 143 smaller towns from 124 to 111, and in Margate during the same period from 124 to 65. A reference to Table I., columns 5 and 6, will show these statistics for the last 10 years.

A variety of circumstances has doubtless helped to reduce the mortality of infants in the Town to such a phenomenal degree, and it is perhaps too much to hope that we shall ever have such a low rate in future years. The most important factors were doubtless the cool weather prevailing during last year, and the frequent showers of rain, these conditions tended to limit the number of micro-organisms which produce diarrhoea and other childish ailments; but these factors were present in other localities, but did not result in any such proportionate fall in the Infantile Mortality as in Margate. It is necessary to search for other causes—one obvious cause of a smaller number of deaths among infants is, unfortunately, the very much smaller number of infants born in the Borough. This matter has been dealt with in a previous paragraph.

One of the important reasons for the smaller number of deaths among infants in my opinion is the endeavour that has been made during the last few years in Margate to give instruction to the mothers on the management and feeding of their children, and on the care of their own health. The mother of every baby receives from the Registrar a leaflet giving simple instructions on feeding, etc. I am informed that these instructions are much appreciated by the more intelligent mothers, who realise that something more than maternal instinct is required to successfully rear a baby. Each of the mothers who is attended by a midwife, and, roughly speaking, about half the mothers employ midwives, receives a visit from Miss May, the Health Visitor, who has a homely chat with the mothers and gives them practical advice on all the little important details of infant management; hitherto most of the mothers have had to rely upon the guidance of incompetent old midwives, or on the well-meaning but frequently injudicious advice of friends and neighbours. It is for these reasons that I think it may be claimed that the increasing knowledge of child

management among the Margate mothers is at length showing practical results, and amply justifies the action of the Town Council in appointing a Health Visitor. The time when the help and guidance of a trained and sympathetic Health Visitor is most useful is often after the doctor has relinquished his attendance on the young mother and she is left without anyone to give her skilled advice on the many little details that are necessary if the infant is to be healthily reared, and in many instances she is able to advise that the doctor should be called in to remedy some unfavourable condition which the mother might regard as unimportant.

The figures in the following table this year require no special comment, except perhaps to note the diminished death-rate from Diarrhœa, Enteritis, and Premature Birth, all more or less preventible conditions.

	1905.	1906.	1907.	1908.	1909.
Measles	0	0	2	0	0
Whooping Cough	2	2	1	1	0
Diphtheria	0	1	0	0	0
Diarrhœa	8	18	4	10	2
Enteritis	9	2	5	8	1
Other Septic Disease	1	0	0	0	0
Tuberculosis	0	2	2	0	3
Bronchitis	2	1	6	6	5
Pneumonia	1	1	2	1	0
Other disease of Respiratory Organs ...	0	0	0	0	0
Venereal Disease	1	0	0	0	0
Premature Birth	13	9	12	8	3
Heart Disease	0	0	2	0	0
Accidents	1	0	2	2	0
All other causes	17	11	10	17	11
	55	47	48	53	25

Mr. Jenner, the Vaccination Officer has been kind enough to provide me with the latest available Statistics on Primary Vaccination. It will be seen that the percentage of successfully vaccinated children is steadily decreasing, and in 1908 was the lowest for eleven years. Fortunately Smallpox is quiescent in England,

YEAR.	Total Births Registered,	Successfully Vaccinated.	Insusceptible of Vaccination.	Had Small-pox.	Number of Certificates from Conscientious Objectors.	Died Unvaccinated.	Postponed by Medical Certificate.	Removed to other Districts the Vaccination Officer of which has been appraised.	Removed—Address Unknown.	Percentage Successfully Vaccinated.	Excluding those who died Unvaccinated. Percentage.
1899 ...	554	327	4	...	100	85	7	5	21	% 59	% 67
1900 ...	563	376	1	...	101	68	3	3	10	66	76
1901 ...	511	318	...	...	106	68	1	9	5	68	75
1902 ...	630	435	5	...	88	51	18	8	8	69	78
1903 ...	566	360	2	..	111	76	5	6	35	63	69
1904 ...	544	373	1	...	84	46	6	4	22	68	77
1905 ...	483	314	1	...	87	59	10	3	21	65	72
1906 ...	509	334	...	...	103	48	6	3	18	65	72
1907 ...	495	306	1	...	128	37	1	2	24	61	66
1908 ...	503	268	1	...	197	38*	1	3	3	53	57

* 8 deceased have obtained exemption certificates

The number of cases notified under the Notification Act in 1909 was 217. It will be seen on reference to Table **Zymotic Diseases.** III. that there were only 12 cases of Diphtheria, which is much below the usual number; four of these cases occurred in one School, and one ultimately proved to be another disease. There were six cases of Enteric Fever, of which two were imported cases, in two no obvious source of infection could be found (one of these two cases had suffered from Typhoid Fever some years before, but had not been a source of infection to others, the other case was the third member of the family who had had the disease during the last four years). One case ultimately proved to be suffering from another disease, the sixth case had partaken of unboiled cockles a few days before illness. The above details of the cases of Diphtheria and Enteric Fever suggest that the general sanitary condition of the Borough is good. There was rather an increase in the number of Scarlet Fever cases in the Town during the year, partly accounted for by a group of 47 cases occurring in one institution. In November and December there was an outbreak of this disease chiefly confined to one of the Elementary Schools, the chief characteristic of the outbreak being the mildness of the symptoms in most of the cases. I am convinced that in these groups of cases occurring in Schools the infection is spread to a large extent by so-called "missed cases," viz., by children who escape observation by having

the disease in such a mild form, that their slight indisposition is mistaken for a cold or a bilious attack by their parents, who consequently do not suspect their child has got Scarlet Fever, and send him to school. The most careful examination of school children during the presence of Scarlet Fever in a district, when it exists in such a mild form as above described, will fail to detect any signs of peeling for 10 days or a fortnight, by which time a child may have communicated the disease to many other children. One such case I detected during the peeling stage at the School mostly affected, and I feel sure much of the trouble was caused by this boy, whose parents had merely noticed a slight rash, and symptoms which they thought were due to a cold, the boy was kept at home for a day or two and then sent to School, where he doubtless infected several other children, who in their turn spread the disease still further; it is extremely probable that this unfortunate accident cost the Borough a penny rate. If parents, in all cases of indisposition when a rash is present, would send for their doctor or for the School Medical Officer, much expense might be saved to the Ratepayers. In outbreaks of this disease the numbers mount up very rapidly if the first case or two happen to be mild ones, and the children are sent to school, because so many children become infected before suspicion is aroused, and these children infect their brothers and sisters, and playmates at the other Schools. A code of Health Regulations has been drawn up and approved by the Education Committee, which includes definite instructions to the teachers of the Elementary Schools what to do in cases of suspected infectious disease, so that the School Medical Officers and the Attendance Officer are immediately notified of the absence of any child from School on account of some possibly infectious illness, and the child and other children from the same house should be automatically excluded from School till they have been seen by one of the School Medical Officers. It is to be hoped that this may help in preventing the spread of some of the infectious diseases. Out of the 186 cases of Scarlet Fever during the year there was only one fatal case. Mrs. Cherry, the School Nurse, has rendered most useful service not only in the Schools, but from enquiries in the homes of the children. I have to thank my medical colleagues in several instances for their promptness in bringing these infectious cases to the notice of the Sanitary Staff.

The following 9 deaths occurred from the seven
Zymotic chief Zymotic Diseases, the Zymotic Death-rate
Death-Rate. being **0.3** per 1000, the lowest rate for many years.

The following Table shows the Zymotic Death-rate for the last 10 years:—

YEAR.	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	Average of 10 Years.	1909
ZYMOTIC RATE.	1.4	1.5	0.7	1.8	0.5	1.7	0.6	1.6	0.8	0.6	1.1	0.3

In view of the fact that Margate has such a disproportionate number of children, it is most satisfactory to find that the Zymotic Death-rate is so small this year. On referring to the first of the above Tables certain interesting facts are apparent—the small number of deaths from Diarrhœa; this was doubtless due to the cool rainy summer, and the consequent limitation of micro-organisms which, mingled with dust, contaminate food. In previous reports I have constantly urged that food and milk should be kept in clean scalded utensils and protected from dust and flies. In the rush of the season these simple precautions are not usually observed, the result being that this carelessness robs mothers of their young children, especially in hot dry summers. It will be noted how small a number of deaths occur in Margate as a rule from Enteric (Typhoid) Fever. This is doubtless due to our excellent system of Drainage, pure Water Supply, and the careful supervision of the Shellfish trade. Another point which the general public will note with interest, but which is well known to the medical profession, is the comparatively small mortality from Scarlet Fever. This disease, although it may prove in isolated instances a very serious one, has of late years become much more mild in type, and it will be seen that it is much less fatal than either Measles or Whooping Cough. The word “Fever” seems to inspire the public with undue terror, and local gossip usually magnifies a small outbreak of Scarlet Fever out of all proportion, much to the detriment of the interests of Margate as a Health Resort. From a public health point of view the chief difficulty in dealing with Scarlet Fever, is the mildness of the symptoms in many cases, frequently there is only the most trifling indisposition or sore throat,

and the rash is so slight that it escapes observation. The most careful parents may not suspect the nature of such a trifling indisposition, and their child goes to School or mixes with the public, and the disease is conveyed to others, perhaps in a more serious form. It may not be inappropriate to contrast the disproportionate fear of the public as regards Scarlet Fever, with its comparative lack of suffering and small death-rate, to their singular apathy and carelessness in reference to Tuberculosis, a disease which is also infectious, but frequently entails months or years of great suffering and expense, and has a mortality higher than all the zymotic diseases put together. If this disease were called a "Fever" it might receive more attention from the legislature. It is also interesting to contrast the amount of money spent out of the public funds in this country for the purpose of limiting the spread of these diseases; in Margate the approximate annual expenditure of isolating and treating patients suffering from Scarlet Fever, Diphtheria and Enteric Fever is £3,000, whereas the amount of public money spent on attempting to check the spread of Tuberculosis came to only about £7 during the year, and there are no public funds available for the treatment of the disease except at the Workhouse.

The new "Public Health (Tuberculosis) Regulations 1908" came into force in the Borough at the beginning of 1909. These Regulations provide for the Notification to the Medical Officer of Health of cases of pulmonary tuberculosis occurring among the inmates of Poor Law Institutions, or amongst persons under the care of District Medical Officers. The notification of these cases enables the Medical Officer of Health to visit the residence of Poor Law patients who are suffering from pulmonary tuberculosis or who have recently left premises which they may have infected. He is able to advise the friends of the patients on the necessary steps to be taken to prevent their contracting the disease, and make such other enquiries as may be useful in preventing the spread of this usually fatal infectious disease. The Regulations also enable the Medical Officer of Health to have infected premises cleansed and disinfected before they are occupied by new tenants. These Regulations are likely to prove of great practical use in educating the public on the subject of the infective nature of Consumption, and the means to be taken to avoid infection. I have

drawn up a card of simple instructions for the friends of patients, which is left with them on my visits, supplemented with any further suggestions that the circumstances may demand. Some of these cards I have also sent to all the medical men in the town in the hope that they might find them of use to distribute among their patients, and have expressed the hope that they would also be kind enough to notify any premises that they considered should be disinfected after being inhabited by a person suffering from infective tuberculosis. Several hundred illustrated papers referring to Consumption have been distributed through the Town.

The Regulations appear to have one weak point, and that is that there is no notification of the death of these patients to the Medical Officer of Health, and in many instances he is prevented from taking the necessary steps for disinfection at the time when it is most convenient to do so. In the general interests of the public health it would be desirable that *all* deaths of Consumptive patients should be immediately reported to the Medical Officer of Health by the Registrar of Deaths, in the same way as deaths from Notifiable Infectious Diseases are promptly reported. In poor law cases the disinfection could be carried out without delay and at a time when it would be very convenient for the friends of the deceased. It would also be possible to communicate with the friends of private patients dying of Consumption, who might be glad in many instances to have their premises disinfected by the skilled officers of the Sanitary Department without expense.

The following Notifications were received under these Regulations :—

Form A. 16; Form C. 4; Form D. 1; and Form B. 20. Of these last during 1909 8 have died at home, 6 are still living, 1 went to London, 3 went to Minster Union and are still living, 2 went to Minster Union and died there. Forms A, C and D in nearly all cases referred to cases moved from one Poor Law Institution to another Institution, where necessary disinfection was carried out. With regard to cases notified under Form B, I visited the premises in every instance, and gave a card and advice, and when information of death was received the premises were disinfected.

During the year 1909 there were 41 deaths from Phthisis and 38 from other forms of Tuberculosis. Out of this number 16 persons dying of Phthisis, and 27 of other tuberculous diseases were visitors if children are to be properly reared. On one occasion only was a and non-residents in public institutions. Margate is so justly renowned for the special advantages of its climate for Tuberculosis, that it attracts large numbers of tuberculous patients, chiefly those who suffer from tuberculous disease other than Phthisis, viz., Diseases of Glands, Bones and Joints, which are fortunately not of an infectious nature, there is too much wind for patients suffering from Consumption. Owing to the large number of visitor invalids our death-rate from tuberculous disease appears to be unduly large. It is gratifying, on the other hand, to know that many patients come to Margate every year suffering from this disease and return home cured or materially benefitted.

**Notification
of Births
Act.**

This Act has been in operation in Margate during the whole of 1909, and has been of the greatest service. In a former paragraph I have expressed the opinion that to the services of the Health Visitor it is fair to attribute part of the remarkable fall in the Infantile Mortality rate, viz., from 53 in 1908 to 25 in 1909. The appointment of a Health Visitor originally met with some amount of criticism on the score of expense, but it is an expense which I believe will be indirectly but amply repaid to the Burgesses by a healthier race of children. Other critics complained that parents would resent a visit from a nurse volunteering advice about the management of children, as an intrusion into the privacy of their homes. Owing to Miss May's tact and obvious interest in and knowledge of babies, this prophecy has not come to pass, and her visits have been warmly welcomed by the mothers. The Act enjoins that a notification of the birth of a child should be sent to the Medical Officer of Health within 36 hours. For this purpose a stamped and addressed certificate form is supplied to all medical practitioners and registered midwives, who have simply to fill in the surname of mother, the address, the date and hour of birth, and sex of child, and the medical men are further requested to say if they would like the Health Visitor to call. The returns of the number of cases attended by midwives in Margate are not yet available, but about half the cases are attended by

midwives, and Miss May calls on all these cases, volunteers her advice, leaves two leaflets on the feeding and management of infants, and what is infinitely more important, has a talk with the mothers, and personally instructs them in the little details that are so important request received from a medical man that the Health Visitor should call. The Health Visitor also reports to me many little matters which bear on the health of young children.

HEALTH VISITOR'S REPORT FOR 1909.

This being the first year there has been a Health Visitor in Margate, the work has been more or less of a pioneer character. The mothers, however, have taken kindly to the new arrangement, and will, no doubt, continue to welcome the efforts made on their behalf.

188 cases have been visited.

160 „ attended by Midwives.

28 „ „ Doctors.

166 babies were brought up on the breast.

8 „ „ „ partly on breast and partly by bottle.

8 „ „ „ entirely on bottle.

5 „ „ stillborn, or lived only a few hours.

235 visits have been paid.

In every case visited, little points have been discussed which bear on the health of mother or infant, and two little papers have always been left behind, one on infant feeding and other little details compiled by the Medical Officer of Health, and the other "A Chat about Baby," written especially for the Margate mothers by the Health Visitor.

"Homely Talks" have been given at Mothers' Meetings, and one little lecture given on "Babies" at the beginning of the year at the Pioneer Club, when help and interest was asked for the new scheme. The Medical Officer of Health was in the chair, and an instructive and interesting discussion followed. The members of the Club have most kindly provided clothing for the infants, and old and new garments have been given to the poorer mothers, which were very much appreciated. If it were practicable, a band of voluntary visitors, to work under the Health Visitor, would be a help in keeping in touch longer with the mothers, but there is a danger in multiplying organizations, and at present the way does not seem quite clear for such a body to be formed.

EDITH E. G. MAY,
(Certified Midwife by Examination)
Health Visitor for Margate.

This Act and the supervision of Midwives is no longer under the control of the Margate Sanitary Authority, but is administered by the Kent County Council at Maidstone, who send their Inspectors into the Borough to see that this important Act is properly carried out. The statistics and details of the working of the Midwives Act for 1909 are not available at the time of writing this report.

This important and far-reaching branch of the public service came into operation at the beginning of 1909 in Margate. It is unquestionably, from a health point of view, the most epoch making event for many years. Already in Margate much good work has been done, and scores of children have received skilled medical attention for ailments and conditions which otherwise would have escaped observation, and have remained a source of suffering or partial disablement in their subsequent careers. To anyone visiting the Elementary Schools the general improvement in cleanliness, smartness and health is obvious. As special reports have been made by Dr. McCombe, the Assistant School Medical Officer, and myself to the Education Committee it is not necessary to allude to this subject in detail in this Report.

There are 119 persons in the Borough who are registered as Milk-sellers; there are 9 Cowsheds within the Borough; and 15 Dairymen keep cows outside the town and send carts into the Borough for daily deliveries of milk. In the summer a large quantity of milk is brought into the town by rail. Under the present law we have no power of supervising the Dairies supplying milk from outside the Borough, but have to rely on the vigilance of other Sanitary Authorities to see that they are kept clean. The Cowsheds and the Milk-sellers' Shops in the Borough are under frequent supervision, and on the whole are kept in good condition. There is, however, much to be done in educating the average dairy-farmer and his men before they realise the importance of absolute cleanliness in everything relating to milk. The Act promised by Mr. John Burns, President of "The Local Government Board," has unfortunately not yet become the law of the land. It would be very desirable if the cows in the Borough

were periodically examined by a Veterinary Surgeon to ascertain if they are free from Tuberculosis; hitherto this has not been done. As much of our milk comes from dairy-farms just outside the town it would be a great advantage to Margate and the districts adjoining if the neighbouring Authorities could be induced to adopt the same measures of precaution.

Sale of Food and Drugs Act. During the year 101 Samples were analysed under the provisions of this Act. This averages about one to every 290 of the population; in London the average is about one for every 188 persons, and in the provinces one for every 402 of the population.

It will be seen from the detailed account of this subject in the Sanitary Inspector's Report that the analyses were on the whole satisfactory. Proceedings were ordered to be taken in three cases, one for selling foreign fat as butter, and two on account of deficiency of fat or cream in milk, added water, and the addition of Boracic Acid as a preservative.

Factory and Workshop Acts. During the year I have visited the various slaughter-houses, dairies, cowsheds, milkshops, bakehouses, etc., and on the whole have found them in a healthy condition, and that they complied with the Public

Health Acts and Local Bye-Laws. Details relating to these Acts will be found in the Sanitary Inspectors' Report. On the occasions on which I had reason to call attention to minor breaches of regulations my suggestions were readily carried out. The slaughter-houses receive weekly visits from the Sanitary Inspector or his Assistant, who also pay frequent visits to other places requiring sanitary supervision. The Sanitary Department is always glad to receive notice of any Nuisance from either Residents or Visitors.

Slaughter-houses and Inspection of Meat. There are 10 registered Slaughter-houses in the Borough and six licensed ones. They are regularly inspected every week, and also at times of slaughtering. There is no Inspector with a special certificate in meat inspection.

No carcases or parts of carcases have been found to be tuberculous. A large proportion of the meat consumed in the town comes from the London Markets, and has been inspected before its arrival. No meat is brought to the Borough by sea.

One of the few things to be done to bring Margate into line with the most up-to-date towns is the provision of Public Baths. In about 250 towns in England, many of them of far less importance than Margate, this provision has been made. When the large number of workmen's dwellings is considered and the almost total absence of baths in these small cottages, and also in houses of greater size, it cannot, I think, be disputed that it is desirable that baths would be a great boon to a large majority of the population. I am convinced that they would be welcomed by that large number of the community who have to live in lodgings, officials in the public services, shop assistants, school teachers and many others. Most important of all however is the necessity of providing baths for the 3,000 children in the Elementary Schools. At Salmestone Schools at any rate there is ample space for the provision of bath accommodation. It is difficult enough to keep children reasonably clean even with a bath room in the house, but in many instances it is physically impossible for a hard-worked mother in the working classes to keep a family of children in a clean and wholesome state, when she has nothing more convenient for this purpose than a small wash tub, or even a tin basin with a piece of soap and flannel. It is perhaps not necessary to urge at any length the great desirability of providing Baths, not as a mere luxury, but as an important addition to our measures for promoting the public health. It is the usual experience of most Authorities that Baths are not a financial success measured simply on the direct return in cash taken at the doors. It may not be possible to make them actually pay their own way in Margate, but it is only fair that the indirect advantages to the community should also be taken into account. As the Baths would be primarily intended for the use of the inhabitants and not for visitors, it would be desirable if they were built in some locality fairly central for the classes of people most likely to use them. A plain brick building, devoid of unnecessary ornamentation, built on a spot where ground is not expensive, ought not to cost more than the town could reasonably afford, especially as there would be a definite return from them if they were made popular, and were well managed. It may not be possible, at any rate at first, to provide a swimming bath, but this is not so important at Margate as at inland places where no river or sea or swimming baths are available. I venture to hope that this suggestion may be found worthy of consideration by the Corporation.

The Sanitary Committee have again devoted attention to these matters. Some old fashioned cottages in Victoria Road, opposite the Royal School for Deaf Children, have been demolished. There are a few unsatisfactory cottages and houses scattered about in the older parts of the town, which are in fair repair, and although they are not desirable habitations, it is not possible to condemn them as unfit for human habitation. During the last two or three years the Sanitary Committee have repaved a large number of Courts and Passages. This has been a most essential improvement, as many of them formed playgrounds for children, and had hitherto been impossible to keep clean and tidy; their dusty or muddy condition also made it difficult for residents in the adjacent poorer properties to keep their houses clean. There are still a few such courts and bye-ways that require attention.

The nuisance from decomposing Seaweed, which has for many years given so much trouble, has not been a source of trouble this year. The various groynes erected during recent years, by retaining a much larger area of sand have also diminished the area of seaweed bearing rock. The roads that have been constructed across the rocks have enabled the seaweed to be carted into deep water. It seems a pity that no scheme has at present been found practicable for selling this valuable manure to the local farmers.

In view of the rapidly increasing traffic, and especially motor traffic, the Tarring of the roads has been found to be a great public improvement. The whole of the road along the seafront from Westbrook to Ethelbert Crescent is now tarred. The following roads have also been treated in this way:—High Street, St. Peter's Road, Eaton Road, Ramsgate Road, Northdown Road, and Northumberland Road; it is also proposed to tar the roads in Dalby Square and the several roads east and west of the Square.

Sea water has been used for Street Watering, and the results have again been most beneficial in helping to bind together the road surface and probably disinfecting to some extent the surface dust.

There has been the same difficulty this year in inducing individual ratepayers to use properly covered refuse receptacles, and to keep them reasonably clean.

TABLE I.
VITAL STATISTICS OF MARGATE DISTRICT DURING 1909 AND PREVIOUS YEARS.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.				TOTAL DEATHS IN PUBLIC INSTITUTIONS IN THE DISTRICT.	Deaths of Non- Residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	NETT DEATHS AT ALL AGES BELONGING TO THE DISTRICT.	
		Number.	Rate*	Under 1 Year of Age.		At all Ages.					Number.	Rate*
				Number.	Rate per 1,000 Births registered.	Number.	Rate*					
1	2	3	4	5	6	7	8	9	10	11	12	13
1899	22203	484	21·7	96	198	392	17·6	...	19	39	412	18·3
1900	22662	483	21·3	82	169	358	15·7	...	27	45	374	16·5
1901	23121	440	19·0	57	129	335	14·4	64	41	37	331	4·3
1902	23580	540	22·9	86	159	373	15·8	38	42	43	384	16·2
1903	24039	487	20·2	53	108	325	13·5	57	41	37	321	13·3
1904	24263	463	19·0	71	153	332	13·6	71	63	42	311	12·8
1905	24960	401	16·0	55	137	325	13·0	50	45	40	320	12·8
1906	26207	420	16·0	46	109	313	11·9	57	41	49	321	12·2
1907	27081	421	15·5	48	114	323	11·9	67	58	47	312	11·5
1908	28700	425	14·8	53	124	328	11·4	68	57	41	312	10·8
Averages for years 1899-1908	24681	456	18·6	64	140	340	13·3	...	43	42	339	13·8
1909	28800	381	13·2	25	65	319	11·0	59	51	49	317	11·0

* Rates in Columns 4, 8 and 13 calculated per 1,000 of estimated population.

Total population at all ages. 23,121. No of inhabited houses, 5,135. Average number of persons per house, 5·3.

Area of District in acres (exclusive of area covered by water), 1,489.

Institutions within the District receiving sick and infirm persons from outside the District:—1, East Cliff House (Metropolitan Asylums Board); 2, Convalescent Home for Children, Grosvenor Place; 3, Royal Sea Bathing Hospital; 4, Rob Roy Cripples' Home; 5, Victoria Home for Invalid Children, Sea View Terrace; 6, Apsley House Sanatorium, St. Peter's Road; 7, West Ham Union Convalescent Home. The Cottage Hospital receives a few patients from outside the District.

Institutions outside the District receiving sick and infirm persons from the District: 1, Lunatic Asylum at Chartham; 2, Workhouse at Minster; 3, Fever Hospital at Haine. There is no Union Workhouse within the District.

TABLE III.

CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR
1909 IN THE
MARGATE URBAN SANITARY DISTRICT.

CASES NOTIFIED IN THE MARGATE DISTRICT.								No. OF CASES REMOVED TO HOSPITAL FROM MARGATE DISTRICT.
NOTIFIABLE DISEASE.	At all Ages.	At Ages—Years.						
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 and upwards.	
Small-pox ...	...	...	...	...	...	...	...	...
Cholera ...	...	...	...	...	...	...	...	...
Diphtheria (including Membranous Group)	12	...	4	7	1	...	...	12
Erysipelas ...	11	...	1	2	3	3	2	...
Scarlet Fever ...	186	1	34	127	17	7	...	122
Typhus Fever ...	...	...	...	...	...	...	...	...
Enteric Fever ...	6	...	...	1	1	4	...	4
Relapsing Fever ...	...	...	...	...	...	...	...	...
Continued Fever ...	...	...	...	...	...	...	...	...
Puerperal Fever ...	2	...	...	...	...	2	...	...
Plague ...	..	...	...	...	...	...	...	...
Totals ...	217	1	39	137	22	16	2	138

Isolation Hospital—Isle of Thanet Joint Board Hospital, at Haine. Total available beds, 116.

Number of Diseases that can be concurrently treated, 3.

(Small-pox Hospital on a neighbouring site, an additional 16 beds).

TABLE IV.

CAUSES OF, AND AGES AT, DEATH
DURING YEAR 1909, IN THE
DISTRICT OF MARGATE.

CAUSES OF DEATH.	DEATHS AT THE SUBJOINED AGES OF "RESIDENTS" WHETHER OCCURRING IN OR BEYOND THE DISTRICT.							Total Deaths whether of "Residents" or "Non- Residents" in Public Institutions in the District.
	All ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	
Small-pox ... ..	...	...	...	...	...	...	...	...
Measles ... ..	...	...	...	...	...	...	...	...
Scarlet Fever	1	...	...	1	...	...	...	...
Whooping-cough	1	...	2	...	...	...	...	...
Diphtheria (including Mem- branous croup)	2	...	2	...	...	...	...	...
Croup ... ..	...	...	...	...	...	...	...	...
Fever—								
Typhus ... ..	...	...	...	...	...	...	...	...
Enteric	1	...	...	...	...	1	...	...
Other continued ... ..	...	...	...	...	...	...	...	...
Epidemic Influenza	5	...	...	...	1	4	...	1
Cholera ... ..	...	...	...	...	...	...	...	...
Plague ... ..	...	...	...	...	...	...	...	...
Diarrhoea	3	2	1	...	...	...	...	...
Enteritis	3	1	...	1	...	1	...	...
Gastritis ... ..	...	...	...	...	...	...	...	...
Puerperal Fever ... ..	...	...	...	...	...	...	...	...
Erysipelas	1	...	...	...	...	...	1	...
Other Septic Diseases... ..	3	...	...	...	1	1	1	2
Phthisis (Pulmonary Tubercu- losis)	35	...	...	...	3	30	2	6
Other Tuberculous Diseases	16	3	2	4	1	5	1	23
Cancer, malignant disease	23	...	...	...	...	9	14	4
Bronchitis	21	5	2	1	...	2	11	1
Pneumonia	12	...	2	1	...	5	4	1
Pleurisy	1	...	...	...	...	1	...	...
Other Diseases of Respiratory Organs	4	...	...	...	...	1	3	...
Alcoholism—Cirrhosis of Liver	14	...	...	...	...	13	1	...
Venereal Diseases	2	...	1	...	...	1	...	...
Premature Births	3	3	...	...	...	...	...	...
Diseases and Accidents of Par- turation	2	...	...	...	...	2	...	...
Heart Diseases... ..	31	...	...	...	...	12	19	8
Accidents	7	...	...	...	...	6	1	2
Suicides	2	...	...	...	...	1	1	...
Senile Decay	48	...	...	...	...	...	48	...
All Other Causes	75	11	4	2	1	43	14	11
All Causes	317	25	16	10	7	138	121	59

TABLE V.

INFANTILE MORTALITY DURING THE YEAR 1909.

DEATHS FROM STATED CAUSES IN WEEKS AND MONTHS
UNDER ONE YEAR OF AGE.

CAUSE OF DEATH.		Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under 1 Year.
All Causes.	Certified Uncertified	7 1	1 ...	1 ..	1 ...	10 1	1 ...	1 ...	1 ...	2 ...	2 ...	4 ..	1 ...	1 ...	1 ...	...	...	24 1
Common Infectious Diseases.	Small-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Chicken-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Measles ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Scarlet Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Diphtheria—Croup	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhoeal Diseases	Whooping Cough	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Diarrhoea, all forms	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	2
	Enteritis, Muco-enteritis, Gastro-enteritis	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
Wasting Diseases.	Gastritis, Gastro-intestinal Catarrh	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Premature Birth...	...	3	...	...	3	...	...	...	...	...	...	...	...	...	...	...	3
	Congenital Defects	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
	Injury at Birth ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Want of Breast-milk	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculous Diseases.	Atrophy, Debility, Marasmus	...	1	...	1	2	...	...	...	1	...	1	...	...	...	...	...	4
	Tuberculous Meningitis...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Tuberculous Peritonitis : Tabes Mesenterica...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	2
	Other Tuberculous Diseases	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Other Causes :	Erysipelas ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Syphilis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rickets ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Meningitis (not Tuberculous)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Convulsions ...	...	3	1	...	4	...	...	...	...	...	...	...	...	1	...	...	5
	Bronchitis ...	...	...	...	1	1	1	1	...	1	...	1	...	...	...	...	...	5
	Laryngitis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Pneumonia ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Suffocation, overlying	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Other causes ...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
	
		...	8	1	1	1	11	1	1	1	2	2	4	1	1	1	...	25

BIRTHS IN THE YEAR { Legitimate : 367.
 { Illegitimate : 14.

DEATHS IN THE YEAR { Legitimate : 24.
 {



BOROUGH OF MARGATE.

REPORT

OF THE

SANITARY INSPECTOR

For Year ending December 31st, 1909.

Margate :

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*To the Chairman and Members of the Sanitary and Sewerage
Committee of the Borough of Margate.*

GENTLEMEN,

I have the honour to submit the following Report on the work that has been carried out during the year ending the thirty-first of December, nineteen hundred and nine.

The number of inspections, and reinspections, paid to inhabited houses for various causes, amounted to five thousand six hundred and ninety-four, and notices have been served where required, specifying the work necessary to be done, to place the property into a satisfactory condition.

Twelve houses have been connected to the Public Sewers, abolishing ten Cesspools, and one block of three houses connected to one drain, which was in a very bad condition, with fall the wrong way at some parts. This drain has now been reconstructed, each house provided with a separate drain, connected to sewers, and properly ventilated by a four-inch shaft.

Six small two-inch ventilation shafts have been removed, and the soil pipe carried up full bore above the roof, for ventilation purposes, four defective vent shafts have been repaired, and four rain-water down pipes have also been repaired.

Eleven broken and blocked drains have been repaired, and unstopped; and the joints of seven closets, found in a leaky condition, have been raked out, and pans reset; more light and ventilation has been provided in four closets; new closet pans, replacing broken ones, have been provided in seven cases; and four closets in which the wooden floors and seats were rotten, joints leaky and broken, and cisterns defective, have now been put into a sanitary condition, by repairing and resetting the pans and traps, replacing the wooden floors with cement ones, fixing new seats, and repairing the broken cisterns.

One block of four houses, without any ventilation to the drains, yards uneven, with pools of water lying about after rain, and large drain pipes for sink wastes, have now been provided with a four-inch ventilation shaft for each house. the yards have been laid with a cement floor, and the sink wastes removed, and lead wastes fixed in the place of drain pipes.

Two new sinks have been fixed, replacing broken ones, and six new lead wastes fixed, in the place of the large earthenware wastes.

The whole of the lavatory fittings at one of the places of amusement were found in a very defective condition; these were put into a sanitary condition by replacing broken lavatory basins and wastes to same, with new ones where required, providing new water fittings where necessary, the walls were scraped, washed off and re-coloured, and tar-painted to a sufficient height from the floor of lavatory.

The Urinal at the First and Last, which had been used by the public for many years, and many complaints have been received about the same, has now been reconstructed; the entrance from the public footpath being closed up and a new entrance provided through their own premises. No further complaints have been received in respect to this.

Twenty-eight broken and defective closet cisterns, rendering the closets unsanitary for the want of proper flushing, have been repaired, and eleven new flushing cisterns have been fixed in the place of broken and worn-out cisterns, and two new fall pipes from pan to cisterns have been fixed.

The Water Supply in fourteen cases, found in a defective condition, through defective fittings, has been put into a satisfactory condition by either putting in new services from the Borough mains or repairing the house services where necessary.

Eight dirty areas of unoccupied premises have been cleared up and rubbish carted away.

Sixteen lots of animals found in back yards kept in a dirty condition, such as Rabbits, Fowls, etc., have been attended to and the nuisance abated by either doing away with the animals or thoroughly cleansing runs, etc.

Four hundred and thirty-four common nuisances, arising from accumulations of manure, offal, vegetable refuse, fish shells, house refuse, etc., have been dealt with, and the nuisance abated.

One hundred and twenty-four nuisances, arising from blocked, broken and overflowing drains and gullies, dirty and filthy closet pans, walls of closets dirty, etc., have been dealt with and the work necessary to abate the nuisances carried out.

Ten cases of overcrowding have been abated, either by the persons causing the overcrowding obtaining more rooms or removing to other premises where more accommodation could be obtained, and the rooms lately occupied by them thoroughly cleansed and ceilings whitewashed.

STABLES.

There are two hundred and ninety-four Stables within the Borough, the Byelaws providing that all manure, etc., shall be removed at least once in seven days; to visit each Stable once in seven days; and if the Assistant Inspector devoted the whole of his time to these alone he would have to visit at least fifty per day. A great deal of time has to be given to these, especially during the summer months. Notices have been served to abate nuisances from accumulations where required, and four manure pits have been reconstructed, the floors brought up above the adjoining ground, gully for draining same fixed, and walls and floors cemented internally.

FISH FRYING.

There are ten places used for the purpose of frying fish for sale. These have been kept under supervision and notice has been served to cleanse the frying apparatus in three cases and to repair the ventilation shaft from the hood in two cases.

OYSTER AND WHELK STORES.

The Stores and places where the hawkers store their fish have been visited, and generally found in a satisfactory condition. Only in two instances was it found necessary to serve notices to cleanse and limewash the walls of Store.

MARINE STORES.

These are kept under constant supervision, especially during hot weather, and every effort is made to prevent any undue accumulations of an already offensive article before it is brought to the Store.

HOUSES LET IN LODGINGS.

These are kept under inspection and visited and the occupiers advised in respect to matters for which they are responsible, such as opening their windows, etc., to ensure their rooms being properly ventilated at least once a day, and cleansing and sweeping, etc., and notices have been served upon the responsible person to unstop and cleanse the closets in four cases, and to repair water pipes in one case.

HOUSES OF THE WORKING CLASS ACTS.

Under these Acts five notices have been served and the five houses have been thoroughly put in order and rendered fit for human occupation.

SLAUGHTER-HOUSES.

The sixteen Slaughter-houses within the Borough are paid a visit at least once a week each, and in addition surprise visits are paid on the days on which killing takes place. They are generally kept in a satisfactory condition considering the nature of the work carried on therein; only in two instances was it necessary to call attention to the condition of the walls and in one instance to the drains.

There is also one License in addition in use for a Knackers Yard, and I am pleased to inform the Committee this has at all times been found in a very clean and satisfactory condition.

MORTUARY.

This is always kept in as clean a condition as it is practically able to do, as so much dust blows in from the Gas Works. If it is cleaned out one hour it is dusty the next. This has been used on ten occasions during the year for depositing bodies awaiting inquests or other purposes.

MERCANTILE SHIPPING ACTS.

Under these Acts various vessels using the Harbour have been inspected to see that the Regulations in respect to cubic space, separate accommodation for females is provided (if necessary), ventilation, water supply, cleanliness, etc. These have generally been found in a satisfactory condition, considering that most of them are unloading their cargoes of coal at the time of inspection.

FACTORY AND WORKSHOPS ACTS.

Under these Acts it is compulsory to keep a Register of all places to which these Acts apply, and at the present time there are no less than three hundred and ninety-eight places, consisting of Factories, Workshops and Domestic Workshops upon the Register. Factories are places in which the work carried on therein is assisted by mechanical power, and consist of the undermentioned trades:—

Builders	...	...	4	Motor Works	...	...	3
Bootmakers	...	...	2	Electro-plater	...	...	1
Brewers	...	...	2	Mineral Waters	...	...	5
Cabinet Makers	...	...	1	Gas Works	...	...	1
Laundries	...	...	2	Private Works	...	...	9
Printers	...	...	7	Wood Chopper	...	...	)
Electric Light	...	...	1	Corn Merchants	...	...	3
Private Laundries	...	...	3				—
				Total	...	...	45

Workshops are described as places in which the trade carried on therein is for purposes of profit by manual labour. Domestic Workshops are described as places in which work is carried on therein for purposes of gain, the workers therein being members of the same family, and consist of the following businesses:—

Bootmakers	...	...	40	Boat-builder	...	...	1
Blacksmiths	...	...	11	Beer-bottlers	...	...	2
Builders	...	...	34	Coach Works	...	...	7
Basket-makers	...	...	1	Cabinet-makers	...	...	11
Bakers	...	...	35	Milliners	...	...	32
Dressmakers	...	...	37	Plumbers	...	...	17
Laundries	...	...	70	Watchmakers	...	...	11
Picture-framers	...	...	4	Harness-makers	...	...	3
Tailors	...	...	28				—
Motor Works, etc.	...	...	9	Total	...	...	353

During the year these have been visited upon eight hundred and ninety-six occasions, and notices have been served to cleanse and lime-wash the walls and ceilings of seventeen workrooms, repair and make good defective closet joints in eight cases, to repair defective closet cisterns in two instances, to unstop and repair broken drains in two cases, and abate two cases of overcrowding in the workrooms, a total of thirty-one defects in all.

DAIRIES AND MILK SHOPS.

Under these Orders a Register is kept of every person who deals in Milk by retail, and at the present time there are one hundred and nineteen names upon the Register. There are nine persons within the Borough who keep their own cows. These have accommodation for one hundred and thirty-four cows within their sheds, but the majority are out of doors all day, only being brought in-doors for milking purposes. There are fifteen farmers who reside outside the Borough but whose milk is brought into the town and sold to their customers from their carts in the street. There are ninety-five persons who sell milk in small quantities, rarely exceeding two gallons per day. It is the greatest difficulty to get the people to recognise the importance of keeping the Milk covered over whilst it is standing on the counter. There are also some hundreds of gallons of Milk brought in by the Railway Companies daily, and it would be a good improvement if a room could be provided at the Station for the churns to be placed in on their arrival, instead of standing about on the platform until carted away, as at present. Every endeavour is made to keep the Cow-sheds in a clean and clear condition as possible, but I am afraid the standard of cleanliness we should like to see in the Cow-sheds will never be reached until some of the existing sheds are entirely reconstructed, but of this I can assure you that there is a marked difference in their condition to what existed six years ago, and every effort is made to carry out any suggestions made either by the Medical Officer of Health or myself to ensure better conditions. The sheds are better lighted and ventilated, each cow is allotted a certain amount of air space to prevent overcrowding, the floors are laid in cement and with a fall, to allow of them draining themselves, and at the same time keep the animals drier and cleaner, and every shed has a certain amount of fixed ventilation to ensure free ventilation at all times; but we should also like to see each householder assist the Milkman in continuing the cleanliness when he delivers the Milk at their door, by providing a proper vessel to receive the Milk in, of glazed ware with a hinged cover, something on the principle of the hot-water jug, which would ensure the Milk being covered over directly it was received, and if it was necessary to stand it down at once in a hot kitchen it would at least be covered from dust, flies, smells, etc., and after use could be scalded out ready for the next time it was required.

AMBULANCE AND DISINFECTION.

This work has been much heavier than last year, two hundred and seventeen cases having been dealt with, as against eighty-five last year. One hundred and thirty-eight cases were removed to the Isolation Hospital this year, as against fifty-eight last year. This has necessitated the fumigation or disinfection of three hundred and forty-four rooms and two private carriages, and the removal of the undermentioned articles from the houses to the Disinfection Station for disinfection by the Steam Disinfector:—

78 Feather Beds.	240 Mattresses.
28 Palliasses.	401 Pillows.
110 Bolsters.	690 Blankets.
11 Suits of Clothes.	34 Coats.
135 Rugs, Counterpanes, etc.	20 Carpets.
16 Cushions.	172 Bundles of Miscellaneous Articles.

A total of 1,935 articles disinfected by steam.

There were also found five lots of filthy bedding thrown into the back passages in various parts of the Borough. These were collected and destroyed by burning.

SALE OF FOOD AND DRUGS ACTS, ETC.

During the year I have purchased for the purpose of analysis under the above Acts one hundred and one samples of various articles of Food, and personally delivered them to Mr. Harvey, the Public Analyst, at Canterbury, for his examination, after complying with the requirements as to division, etc., as required by the above Acts, with the following results.

On Tuesday, March the ninth, five samples of Butter were purchased; four of them were certified to be genuine Butters, the remaining sample was certified to be all foreign fat. At the same time and date five samples of Margarine were purchased; the Analyst certified them to be genuine Margarine and to comply with the conditions of the Margarine Act.

On April the tenth ten samples of Milk were purchased from the Milkmen with their carts in the street; eight were certified to be genuine Milk, one was certified to be deficient in fat or cream and to contain 9.76 grains of Boracic Acid per pint. The vendor of this

sample was requested to attend and give an explanation to the Sanitary Committee, and no further proceedings were taken after the explanation by the vendor. The remaining sample was certified to be deficient in fat or cream to the extent of twenty per cent., also to contain nine per cent. of added water and 11.12 grains per pint of Boracic Acid. Proceedings were ordered in this case against the vendor.

On June the eighteenth five samples of Coffee were purchased. Four of them were certified to be genuine Coffees. The remaining sample was certified to contain fifty-five per cent. of Chicory; this being sold in a tin and the contents being properly described on the label attached thereto, no action could be taken, the Act being complied with. At the same time and date five samples of Baking Powder were purchased. The Analyst certified them to be genuine Baking Powders and to be free from any injurious ingredients. At the same time and date five of the cheapest brands of Condensed Milk were purchased. The Analyst certified them to be Machine Skimmed Milk, the contents being correctly described on the labels attached to the tins.

On July the tenth five samples of Cheese were purchased. All were certified by the Analyst to be genuine Cheese. At the same time and date five samples of Sugar were purchased, all being certified to be genuine Sugars.

On July the twenty-second nine samples of Milk were procured at the Margate Sands Railway Station on the arrival of the train at that station. Six of them were certified to be genuine Milk; the remaining three samples were certified to be deficient in fat or cream but not sufficient to justify proceedings being taken, but further samples of these three vendors' milk were taken, which proved genuine. They were then cautioned in respect to the poorness of the previous samples.

On August the twenty-fifth five samples of Butter were purchased, as informal samples. The Analyst certified them all to be genuine Butters. On the same date ten samples taken informally, consisting of Whisky, Rum and Gin, were purchased. Nine of them were certified to be above the strength laid down by the Food and Drugs Amendment Act; the remaining sample (one of Gin) was

certified to contain 8·8 per cent. of added water. These samples being taken informally no action could be taken, but a further sample was taken later on.

On September the twenty-first and twenty-second twelve samples of Milk were taken in the course of delivery at the Railway Station and from the Milk Vendors in the streets. Eleven of them were certified to be genuine Milk, the remaining sample being certified to contain ten per cent. of extraneous water. Proceedings were ordered to be taken in this case, but were withdrawn in consequence of the circumstances that occurred in connection with the wholesale dealer who supplied this man. (See next Sample.)

On Friday October the eighth a sample of Milk was taken on the arrival of the train at the Margate Sands Station in course of delivery to a local Milkman. The Analyst's certificate showed the same to be adulterated with eighteen per cent. of added water. Proceedings were ordered to be taken against the vendor, but before the summons could be issued the Cowman of the Farmer sending in the Milk had hanged himself, and no further proceedings were taken in respect to this sample.

On September the twenty-second a sample of Gin was purchased from the vendor of a sample purchased on August the twenty-third which was certified to contain 8·8 per cent. of added water, but being taken informally no action could be taken. The Analyst certified this sample to contain 2·8 per cent. of added water, but the Committee thought this was too small to justify proceedings and gave instructions for the vendor to be written to and cautioned in respect to both samples.

On Tuesday, November sixteenth, five samples of Butter were purchased, the Analyst's certificate showing them all to be genuine Butters. At the same date five samples of Margarine were purchased, the Analyst certifying them to be genuine Margarine, and they were also sold in conformity with the Margarine Act.

On Monday, May the seventeenth, samples of Mineral Waters were purchased from various manufacturers. The Analyst's certificate certified them to be first-class articles, free from Pathogenic or suspicious organisms and free from objectionable metallic impregnation.

On Monday, March twenty-sixth, samples of live Mussels and Cockles were purchased from a barrow in the streets. The Analyst certified them to contain Bacilli belonging to the Coli group in considerable quantities in both samples. The Medical Officer of Health at once communicated with the Medical Officer of Health of that District and other places, and I personally saw the Hawkers and warned them of the risks they were running in selling such articles, with the result they gave an undertaking not to have any more from that source.

I have also condemned and seen destroyed thirty pounds of Meat exposed for sale, which was in my opinion unfit for human consumption, at a shop in Milton Road. This was in bad condition, due to the hot weather. I pointed out to the man the risk he was running and he immediately took steps to destroy the same in my presence. I have also settled disputes in respect to a tin of Corned Beef and also four Rabbits.

I have also taken fourteen samples of Water from the Mains of the Borough Water Supply at a hydrant at Shottendene. Twelve of them have been sent to Dr. Foulerton at Middlesex Hospital for Bacteriological examination, and two to Mr. Harvey at Canterbury for Chemical examination.

LEGAL PROCEEDINGS.

On Wednesday, April the nineteenth, proceedings were taken against the vendor for selling, on March the ninth, a sample of Foreign Fat for Butter. A conviction was obtained, the defendant being fined £10, nine shillings costs, and one guinea solicitor's fee.

On Wednesday, May the nineteenth, proceedings were taken against the vendor of a sample of Milk taken on April the twenty-second, the same being deficient in fat or cream to the extent of twenty per cent., also to contain nine per cent. of extraneous water, and 11.12 grains of Boracic Acid per pint. A conviction was obtained, the defendant being fined forty shillings and eight shillings costs.

The Town Clerk also appeared at the Police Court on Wednesday, October the twentieth, in connection with the withdrawal of the proceedings already taken in respect to a sample of Milk, and obtained permission to withdraw the summons.

In conclusion I beg to return my sincere thanks to the Chairman of the Sanitary Committee (W. H. Hughes, Esq.), and also to the members of the Committee generally; also to the Town Clerk (Edward Brooke, Esq.) and the Medical Officer of Health (B. Thornton, Esq.) for their kind assistance and support in carrying out the many and various duties in connection with this office; and I also take this opportunity of thanking the Assistant Inspector (Mr. J. M. Brown) for the ready assistance he has at all times rendered me, and beg to remain,

Your obedient Servant,

EDWARD ELLIOT. Asso. Royal Sanitary Institute,
Chief Sanitary Inspector,
Borough of Margate.

February 19th, 1910.



BOROUGH OF MARGATE.

ANNUAL REPORT
OF THE
METEOROLOGY

For the Year 1909,

FROM OBSERVATIONS TAKEN AT

Surrey Road, Cliftonville.

LONGITUDE $1^{\circ}24''$ E. LATITUDE $51^{\circ}24''$ N.

HEIGHT ABOVE SEA LEVEL 77 FEET.

Climatological Station of the Meteorological Society.

Margate :

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ELECTRIC PRESS, CLIFTONVILLE.



To the Chairman and Members of the Sanitary Committee.

GENTLEMEN,

I beg to present the Annual Report of the Weather Conditions of the Borough of Margate for the past year, 1909; one of an exceptional and extraordinary nature and with records and extremes affecting in many ways the success or otherwise of the all-important season. Rainfall, Sunshine and Temperature showed excesses and deficiencies which will be dealt with under their several heads. The very sunny Spring, the cool Summer, the mild early Autumn, and the great rainfall which closed October, were points calling for special mention; though the record Summer influx of visitors and the great success of the entertainments, show the high place Margate holds notwithstanding adverse climatic conditions.

The observations were taken as in the previous year, with the same instruments, and in an approved situation in Surrey Road, Cliftonville. Following the practice of many years the notes were made three times each day; at 8 a.m. for the morning telegram, and for putting up the figures on the Jetty Board; at 9 a.m. in conformity with the regulations of the London Offices, and the practice throughout the land, and from which readings the daily averages are struck; and at 6 p.m. for the evening telegrams. Sixteen instruments have been read daily, several of them more than once. Taking the year's figures in the same order as heretofore we look first at the

BAROMETER,

the instrument so universally consulted and so closely watched by many others than by those who make regular notes. Its average was below that of 1908 but slightly; but its range was more, going as high as 30.670 at the beginning of January, and as low as 28.500 in the first week of December. It stood at some point over 30 inches in every month but March; it was, however, only in the last month of the year it fell below 29. The total range was over 2 inches.

THERMOMETERS.

The temperature of the air is of the greatest import, and to ascertain this in varied aspects a dozen Thermometers are daily consulted. Four of these are in the Stevenson's Screen, the maximum for the highest shaded day reading and the minimum for the lowest shaded night. From these we get an average daily temperature of 49.6° , or very nearly 1° less than the previous year, a very serious deficit. There was an excess (on 20 years' average) in only four of the months, January, April, May and October; in two it was about the same, and in six there were heavy and appreciable decreases. On but three occasions did the maximum Thermometer go over 80° , once in May and twice in August, the 12th of the latter being the warmest day of the year. There were no screen readings below 20° , the lowest being 21° on the 5th of March. Taking the months in quarters we were unfortunately lower in each than in 1908, and below the general average in the first and third, i.e., the three Summer months of July, August and September.

The daily range of temperature of the extremist import to a sea-side resort was only 10.8° , and this feature of our climate cannot be too much dwelt upon. The difference, too, between the readings each morning, of which I take special note, shows again the very low average of but 3.2° , there being few occasions of a difference of as much as 10° ; this again is a fact of real and great moment.

I append as for some years past a table of interest, giving the maximum shade readings of temperature in each month.

	Over	20°	30°	40°	50°	60°	70°	80°	90°
1909	...		32	94	93	116	27	3	
1908	...		25	106	79	115	40	1	
Average	...		20	87	122	92	39	5	

There will be seen to be an excess of these readings to the lower degrees.

The number of FROSTS is not high, 82 on the ground and 38 in the screen. There were but two between the 9th of April and the 9th of November, a period of seven months.

EARTH THERMOMETERS.

Four instruments, going into the soil respectively to the depths of $\frac{1}{2}$, 1, 2 and 4 feet, gave averages embodied in the general tables enclosed herewith, and all read lower than in 1908. None of them registered a frost. The deepest instrument remained at or above 56° from July 17th till October 8th, a shorter time than usual.

RAINFALL.

Calling for very special remark was the fall of Rain, reaching a total of $28\frac{1}{2}$ inches, the second highest on my register of nearly 30 years, more than seven inches over that of last year, and as much as $5\frac{1}{4}$ inches above our general average. The extra was scattered through the year, there being an excess in as many as nine of the 12 months; only in January, May and November were the amounts small. The Summer months showed an excess of two inches, there were 58 days of rain and the public outdoor entertainments had unfortunately to be given up on several occasions. The great feature of the year was the very heavy rain which occurred at the end of October, affecting the Isle of Thanet in a most marked degree. In the three days, 26th to 28th of that month, there fell $5\frac{1}{2}$ inches of rain, or just one-fifth of the whole amount for the year. The measures gave for the 26th 1.50, for the 27th 1.10, and for the 28th 2.93; the latter was the largest entry we have ever been enabled to make on one day, and the fall for October the most in any one month. Over 8,000 tons of water fell in those three days on the land area of the Borough. At Wingham the total for the month was a little less. The number of rainy days was 165 (including 15 with only 0.01), so that it gives fully 200 without rain. The highest number were in March (20) and October (24). Over an inch fell on four days; and further, over half an inch on six others. There was no rain from 1st to 15th of May, and from August 3rd to 15th. Of the last 17 years only three have had above the average fall.

The fall at the Corporation Waterworks at Wingham are here appended, taken by Mr. W. R. Hosking, and showing for the five years the gauge has been at work 25.86 inches.

1909	Total Depth.	Greatest Fall in 24 Hours.		Number of Days with .01 or more recorded.
	INCHES.	INCHES.	DATE.	
January ... ..	.70	.21	10th	9
February... ..	.90	.46	10th	8
March	3.09	.41	6th	24
April	1.52	.45	23rd	10
May ... ..	.89	.33	16th	6
June	2.76	.96	3rd	13
July	3.23	.54	13th	14
August	4.31	2 04	25th	9
September	2.52	.55	28th	18
October	6.98	2 14	28th	20
November ... ..	.66	.27	29th	10
December	5 02	.91	21st	20
Total	32.58			161

SUNSHINE.

Great public interest continues to be shown in this most important branch of our weather figures. Through the kindness of Mr. Thos. R. Higgins the instrument has continued on the roof of "The Hydro" Hotel, in a perfectly exposed position. Every facility has been afforded for going to the instrument, and I have been up to it about 500 times during the year. The sun shone on 300 days, leaving only 65 days without any whatever. The total was 1,670 hours, or 40 more than the previous year; and 250 above that registered at Westminster. The most remarkable feature was the really wonderful record for April and May, in both months much more than in any April or May previously. The total for May is further remarkable, 313½ hours, as the only month of the 216 months I have on my register, which has over 300 hours. This result was pretty general through the land. In unhappy contradistinction the June total, 131, was the smallest for any June; and that for July, 162, the least for any July, and the three following months were all very low. As yet still further bearing out the peculiar results for the year the totals for February and November were higher than in any previous February or November. I would repeat a part of last year's Report: "Margate faces due North, and lies on the South side of the mouth of the estuary of the Thames; these conditions do not lend themselves to increase the number of hours of Sunshine and detract somewhat from those places facing south and away from the river."

THE WIND.

Once again the highest number of wind points is from the South-West, and this has been so in several of the months; just half the number are in the three points with West in them. The wind blew with gale force on 14 days. North-easterly breezes were prevalent more particularly in May and November. The figures for the wind directions are:—

	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calms.
1909	22	45	30	35	35	92	41	44	22
1908	30	52	27	24	37	90	43	52	10
Average	33	33	44	22	40	80	58	22	33

BANK HOLIDAYS.

The state of the weather at these legal breaks in the nation's business is an important matter, specially at the seaside. In 1907 these periods were perfect, all of them. Taking the four days to each for 1909 we had at *Easter* no rain; a splendid sunshine total of 37 hours; variable light breezes; and a daily temperature of 52° , or 7° above the average. At *Whitsun* there was no rain on three days, but a sharp thunderstorm on the Tuesday with rain; a good sunshine record of 34 hours; again variable breezes; and a daily temperature of $59\frac{1}{2}^{\circ}$, or 2° above the average.

For the popular *August* holiday we had rain yielding 0.13 parts (with a fine Rainbow) in two measures; the sunshine was conspicuously deficient, only nine hours for four days; the breezes again variable and strong; and the temperature averaged just 60° , or 2° unfortunately down. At *Christmas*, which is each year more and more showing a short season, the sun marked the card on three days with a brief total of six hours; there were showers; south-westerly winds; and a temperature averaging $41\frac{1}{2}^{\circ}$, or as much as 3° over the usual figures.

What however perhaps is of more importance still is the weather record for April and May, and for October, the

SPRING AND AUTUMN,

when in the minds of many, even if at no other times, the so much needed season may be extended. For these three months in 1909

the daily temperature in each case showed a most sensible advance of respectively 3° , 1° , and 3° . The weather was often splendid; in April the sun shone every day; in May on 30 days; and in October on 17 in the first three weeks. In the spring months nearly 80% of the days were without rain. With entertainments and gatherings suitable for our visitors, *not in the open*, there is every prospect of many more visitors coming to our town than now; and in urging this the weather statistics, showing results bracing, beneficial, pleasing, play a most important and uncontrovertible part.

The turn of the season at the end of August was last year a little more favourable than has sometimes been the case.

SEA TEMPERATURE.

I am again favoured with the year's figures of the temperature of the sea, taken by Mr. W. J. Woodruff, of No. 5, High Street. These have been regularly forwarded to London and included in the Weekly Government Report.

1909	Average Sea Temperature	Highest.	Date.	Lowest.	Date.
		°		°	
January	39.83	41.7	19th	34.8	31st
February... ..	38.14	41.1	5th	35.4	28th
March	38.43	43.4	27th	34.6	5th
April	47.51	51.6	26th	42.3	1, 2 & 4
May	53.91	59.8	24th	49.8	2nd
June	57.87	60.7	8th	56.0	5th
July	60.83	65.0	20th	58.0	1st & 2nd
August	63.60	66.6	15th	60.8	3rd & 31st
September	59.72	61.0	2nd	58.8	30th
October	56.38	60.2	4th	49.0	30th
November	46.38	51.1	7th	40.2	24th
December	42.43	45.7	1st	38.8	21st

Highest temperature during the year 1909, August 15th, 66.6° .

Lowest, March 5th, 34.6° .

Mean Temperature for the Sea for 1909, 50.41° , or about the same as for the land.

PHENOMENA.

Various interesting Meteorological occurrences have been duly noted. Beautiful sunsets, for which Margate is famous; rainbows (a few); very pretty clouds; rough seas; sea fogs and mists; thunder and lightning; dews; and slight sleet. There were also distinct

entries 11 days of fog ; 8 thunderstorms, respectively in April, May, June, July, August and September ; hail noted three times ; snow fell on 17 days ; and well defined lunar halos and coronae on half-a-dozen nights.

INSPECTION.

The station was carefully inspected by Mr. William Marriott, F.R.Met.Soc., on behalf of the Royal Meteorological Society, in August.

DISTRIBUTION.

Our observations have been widely distributed, more so than before, and I have again much evidence that they have been seen and noted.

1. Daily. Telegrams are sent to London morning and evening. To the Government, to the London Press, and to the large Railway Stations in town. The readings are posted on the Jetty ; and an evening card is sent off daily. The principal features are included in the Government "Daily Weather Report."

2. Weekly. Summaries are printed in the two local newspapers ; in the Financial News ; and for the first time this year as one of the British Stations from which the Data for the important Weekly Weather Report from the Meteorological Office is deduced. Margate is also included among a few selected stations giving the grass, earth and sea temperatures.

3. Monthly. To the Royal Meteorological Society for publication in their "Record" ; to the Daily Telegraph for a special monthly report of a valuable nature ; and to the East Kent Natural History Society at Canterbury.

4. Yearly. Rainfall figures to "British Rainfall." Likewise summaries to several local and other Guides.

I have again replied to a considerable number of enquiries.

I trust and believe that the publication of our climatic conditions is of much help to the town.

I have the honour to be

Your obedient Servant,

JOHN STOKES, F.R.Met.Soc.,

Meteorologist to the Borough of Margate.

February 23, 1910.

EXTREMES AT MARGATE.

1909.	BAROMETER.		THERMOMETERS.			
	Highest.	Lowest.	Max.	Min.	Grass.	Black Bulb.
JANUARY ...	30·670	29·374	50·0	23·0	22·0	72
FEBRUARY ...	30·506	29·374	55·4	27·0	22·0	88
MARCH ...	29·886	29·000	55·8	21·0	22·0	95
APRIL ...	30·538	29·628	68·8	35·8	29·3	113
MAY ...	30·450	29·678	81·9	37·3	31·0	130
JUNE ...	30·368	29·546	70·0	42·7	38·8	117
JULY ...	30·300	29·536	74·0	50·0	46·0	121
AUGUST ...	30·372	29·548	82·4	49·2	45·0	122
SEPTEMBER	30·258	29·688	70·0	46·9	41·0	120
OCTOBER ...	30·300	29·500	66·8	37·3	32·0	112
NOVEMBER ...	30·356	29·400	59·0	31·0	28·8	86
DECEMBER ...	30·420	28·500	53·6	27·3	24·2	71
1909	30·670 Jan. 4th	28·500 Dec. 4th	82·4 Aug. 12th	21·0 Mar. 5th	22·0 Mar. 5th	130 May 24th
1908	30·660 Jan. 21st	28·804 Dec. 11th	82·1	18·9	19·0	125

METEOROLOGICAL OBSERVATIONS, MARGATE, 1909.

AVERAGES.

TOTALS.

1909.	BARO- METER.	BULBS,		Relative Humidity.	Difference at 9 a.m.	THERMOMETERS.							EARTH.				Cloud (0 to 10)	RAINFALL.						SUNSHINE.			FROSTS.	
						Max.	Min.	R'nge.	AV'GE	Diff. 20 Years.	On Grass.	Foot. 1/2	Foot. 1	Feet.		Fall.		Diff. 20 Years.	Days. With.	Max. Fall.	Day.	Hours.	Days. Not. With.	Screen	Grass			
		2	4																									
JAN. ...	30.138	38.9	37.5	80	3.5	46.2	35.2	11	40.7	+1.7	32.3	38.2	38.9	40.6	42.3	7.1	0.67	-1.06	10	21	0.21	10	67	13	18	8	14	
FEB. ...	30.098	37	35.5	86	3.1	42.3	33.6	8.7	38	-2.0	30.8	35.1	36.8	38.6	40.2	6.6	1.43	+0.05	11	17	0.63	10	96	7	21	11	24	
MARCH	29.521	38.1	37.1	91	3.2	43.5	34.5	9	39	-3.4	39.6	38.1	38.4	38.8	39.6	8.5	2.53	+1.10	20	11	0.30	30	79	10	21	11	16	
APRIL	30.210	49.8	46.2	75	3.1	57.1	42.3	14.8	49.7	+2.8	38.6	47	47.2	46.4	45.3	3.4	1.51	+0.05	12	18	0.44	23	250	—	30	...	3	
MAY ...	30.128	55	49.9	70	3.6	61	46.1	14.9	53.5	+1.1	42.9	52.2	52.5	51.6	50	3.3	0.96	-0.64	5	26	0.40	25	313	1	30	...	1	
JUNE...	29.969	55	52	80	2.7	60.1	50	10.1	55	-3.1	47.8	56	56.1	55.3	53.8	8.6	2.23	+0.34	15	15	0.60	3	130	3	27	...	...
JULY ...	29.957	60.5	56.3	75	2.8	67.2	53.9	13.3	60.5	-1.9	51.6	59.2	59.2	57.8	56	7.4	2.86	+0.88	15	16	0.76	27	163	—	31	...	...
AUG.	30.049	62.6	58.3	76	3.5	68.2	56.7	11.5	62.4	+0.1	52.6	61.1	61.1	60.1	58.2	6.4	2.49	+0.44	11	20	1.11	25	195	1	30	...	...
SEPT....	30.049	57.8	54.7	82	2.9	62.9	52.8	10.1	57.8	-0.8	48.8	56.7	57.1	57.4	56.9	7.0	2.36	+0.27	17	13	0.61	25	143	3	28	...	...
OCT. ...	29.855	53.9	51.8	86	3	59	49.2	9.8	54.1	+3.0	46.3	53.1	53.9	54.8	55	8.1	7.44	+4.64	24	7	2.93	28	85	8	23	...	1	
NOV. ...	30.011	44.4	42.1	82	3	47.9	40.6	7.3	44.2	-1.0	37.2	43.6	44.6	46.9	48.6	5.5	0.55	-2.04	7	23	0.24	15	96	6	25	1	7	
DEC. ...	29.686	40.6	39.5	91	4.1	44.7	35.4	9.3	40	-0.3	32.8	40.1	40.9	42.5	44	7.1	3.42	+1.21	18	13	0.56	21	52	12	19	7	16	
1909.....	29.972	50.3	46.7	81	3.2	55	44.2	10.8	49.6	-0.3	41.8	48.4	48.9	49.4	49.2	6.6	28.45	+5.24	165	200	2.93	Oct. 28	1669	64	301	38	82	
1908.....	30.033	50.3	47.7	83	3.2	55.6	45.1	10.5	50.4	+0.5	42.9	49.1	49.6	50.1	49.9	6.7	21.09	-2.22	155	211	0.97	July 12	1631	56	310	25	46	